

THE SPECIES GROUPS OF *APION* OCCURRING IN NORTH AND CENTRAL AMERICA (Curculionidae)

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This paper consists of three parts, an explanation of some characters used in the key presented, a key to North and Central American *Apion* species groups, and a listing of the species assigned to the various groups with a general indication of the distribution of the group. Twenty-two species are keyed out separately either because they apparently do not fit into the groups proposed or because only females were available for study. In every case species which are keyed out separately are so placed on the basis of material identified by the author who described the species.

This paper will serve as the nucleus of a proposed revision of the *Apion* of the New World. Three papers of the series have been published (Kissinger 1956, 1957, 1958) and a revision of the *Trichapion* of the New World is to be published soon.

The weevil genus *Apion* is reputed to be an extremely difficult taxonomic problem. This paper is not intended to refute this reputation; *Apion* will always be a perplexing genus with which to work. This taxonomic difficulty does not arise because individuals of a species are notably variable—a given species of *Apion* is surprisingly uniform in most respects, but rather in the other direction. Not only are the members of a species uniform, but the members of the genus are uniform, so much so that it is extremely difficult to find characters which will split the genus into groups of a convenient size. It is very important to be able to divide a genus the size of *Apion*—more than 250 species in North and Central America—so that identification of the species is possible and ecological studies thereby encouraged. Virtually nothing is known about the ecology of the members of the genus.

The following key is presented to summarize in a useable way certain characteristics that I have found to divide the genus into groups. The names applied to species groups, with the exception of established subgenera, are not intended to have nomenclatural standing but are to be used until subgeneric relationships can be determined. The scope of this key is North and Central America but not including the West Indies. A similar key is in preparation for South American *Apion*.

One of the most serious problems encountered while trying to construct the key was the variation of "convenient" characters within a species group, that is, the majority of species in a group may have a certain character while one does not. This type of difficulty is nearly impossible

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to circumvent and in several instances in using the key it may be hard to place a certain species of a group.

The characters most convenient to use in identification are the secondary sexual modifications of the legs of the male; unfortunately an arrangement based on these characters does not always produce a homogeneous grouping. I have tried to write the key so that females can be properly placed, but this is sometimes difficult.

The following explains some couplets of the key likely to be difficult.

Couplet three takes advantage of the fact that most *Apion* have the first segment of the tarsi rather long and slender. Both the *peculiare* and *herculanum* groups have stout tarsi, the first segment being just about as wide as long; this together with the other characters given should make these two groups easily recognized.

Couplet five requires explanation. Most New World *Apion* have the middle coxae separated from each other by a structure formed by the union of two median projections of the sternum, an anterior part projecting posteriorly and a posterior part projecting anteriorly. These two projections generally join near the middle of the coxae. However in the *chrysocomum*, *punctinasum* and *tantillum* groups and *A. macilentum* Blanchard, known from Chile, the middle coxae are separated somewhat from each other but the two median projections of the mesosternum do not meet so that there is a distinct gap between the coxae. I am indebted to Mr. Balfour-Browne of the British Museum (N.H.) for calling my attention to this character.

Couplet nine may be difficult because of the intermediate nature of the basal lateral expansion of the prothorax characteristic of some species. Generally if this expansion is present the prothorax in dorsal view appears to have a sort of basal flange. I have tried to follow the plan of placing species with any suggestion of an acute basal lateral expansion into the couplets following number ten.

Couplet ten refers to the antennal scrobes. The dorsal margin of the scrobes of most *Apion* gradually slants downward from the anterior part of the scrobe to beneath the eye, this condition is here termed "dorsal margin of scrobe nearly parallel with longitudinal axis of beak." Some species have the anterior part of the dorsal margin at an oblique angle to the posterior part; some, like the *nodicorne* group, have the dorsal margin produced into a prominent angulation, which is visible when viewed from the side; others, like the *luteirostre* group, have the antennae inserted so close to the eyes that the entire dorsal margin is at an oblique angle to the longitudinal axis of the beak. These three types of modifications of the dorsal margin of the scrobe are termed "anterior dorsal margin of scrobe sharply oblique."

Couplet 14 uses the phrase "derm black." Here and in other couplets this refers to the color of the prothorax and elytra and not the legs. *Trichapion* includes two species with red elytra, *rufipenne* Gyllenhal and *vinosum* Sharp. Also the latter species, *glyphicum* Sharp and *chuparosae* Fall have the frons narrower than the tip of the beak, especially in the case of the males.

Couplet 15 may seem weak since it is based in part on size, however *pedestre* Sharp is from 2.5 to 3.0 mm. long while *ferrugineum* Sharp is 1.8 mm and *aegrotum* Sharp is 1.5 mm. long.

The measurement of frons at couplet 16 and other couplets is taken at its narrowest width. I make these and other measurements with a square, ruled reticule in the eye piece; this insures measuring along a straight line.

Couplet 18 and several others makes use of the color of the legs. This seems to be a reasonably stable character where used and it is quite convenient to contrast black legs with those which are yellow or reddish in whole or in part. Another convenient character is the color of the first and second coxae. Most species have black coxae even though the femur and tibia might be yellow; thus the small number of species with yellow or reddish coxae are quite conspicuous. Unfortunately this character can vary in some cases from yellow to dark red.

Couplet 29 refers to the prominence of the eyes. This is determined by viewing the head from above and noticing whether or not the eyes protrude beyond the lateral outline of the head. If they do, the eyes are said to be at least moderately prominent.

Couplet 37 may seem to be based on a weak character. Fortunately both *altum* Sharp and *fuscimanum* Sharp are more than 2.25 mm. long and *aduncirostre* Gerstaecker and *panamense* Sharp are less than 1.80 mm. long. Here and at other points in the key the facies of the species are quite different but facies is very difficult to define concisely in a key.

KEY TO NORTH AND CENTRAL AMERICAN *APION* SPECIES GROUPS

1. Beak short, straight, stout, subcylindrical; body slender, subparallel; prothorax apex as wide as base; frons narrower than dorsal tip of beak.....**Stenapion** Wagner
Beak curved and/or prothorax apex narrower than base..... 2
2. Third tarsal segment strongly bilobed; femora not strongly club shaped; body not clothed with erect pubescence..... 3
Third tarsal segment feebly bilobed; femora strongly club shaped; frons narrower than dorsal tip of beak; body clothed with suberect fine pubescence.....**Heterapion** Sharp
3. First segment of tarsus I distinctly longer than wide; body not gibbose in outline in side view, without transverse pattern of scales or tibiae of male mucronate 5
First segment of tarsus I nearly as wide as long; frons generally wider than dorsal tip of beak; anterior part of dorsal margin of antennal scrobe distinctly oblique; derm brownish; eyes prominent:..... 4

4. Body robust, convex to gibbose in outline from side.....**peculiare** group
 Body moderately robust, elongate, not convex in outline from side.....**herculanum** group
5. Middle coxae separated from each other by a structure formed by the union of an anterior and posterior projection of the sternum..... 8
 Middle coxae not separated from each other by the sternum, with a distinct gap between the anterior and posterior projections of the sternum..... 6
6. Legs and coxae black or piceous..... 7
 Femora, tibiae and coxae 1 and 2 pale yellow; pubescence yellowish, sparse, uniform..... **chrysocomum** group
7. Pubescence minute, inconspicuous; beak in lateral view noticeably attenuate toward apex; eyes not prominent; Texas to Guatemala.....**tantillum** Sharp
 Pubescence conspicuous, with a post-scutellar spot; beak in lateral view subcylindrical; eyes moderately prominent.....**punctinatum** group
8. (5) Front coxae of male not dentate; frons not depressed adjacent to eyes or beak short and stout 9
 Front coxae of male dentate at apex; striae on frons adjacent to eye more deeply impressed; beak slender, nearly as long as head and prothorax combined in both sexes; prothorax with slight basal lateral expansion.....**coxale** group
9. Prothorax with a definite acute basal lateral expansion..... 10
 Prothorax not expanded laterally into a sharp angle at base..... 30
10. Dorsal margin of antennal scrobe distinctly oblique, at least in anterior region..... 11
 Dorsal margin of antennal scrobe nearly parallel with longitudinal axis of beak..... 19
11. Antennae inserted at about middle of beak; Mexico.....**basale** Sharp
 Antennae inserted behind basal third of beak..... 12
12. Beak in dorsal view not or slightly expanded at antennal insertion..... 13
 Beak in dorsal view strongly, acutely expanded laterally at antennal insertion..... 17
13. Antennae inserted under eye at distance from eye much less than width of frons..... **luteirostre** group
 Antennae inserted at distance from eye at least equal to width of frons and usually greater 14
14. Derm black; frons wider than dorsal tip of beak and with a wide flat median area which may be shallowly sulcate; tibiae 2 and 3 of male mucronate.....**Trichapion** Wagner (in part)
 Frons not wider than dorsal tip of beak, lacking wide, flat median area; legs of male not mucronate 15
15. Size under 2.0 mm.; legs of male simple..... 16
 Size over 2.0 mm.; frons about equal to dorsal tip of beak; male with first sement of tarsus 3 produced into a short, blunt spine; derm black; Panama.....**pedestre** Sharp
16. Derm black; frons narrower than dorsal tip of beak; Panama.....**aegrotum** Sharp
 Derm rufous; frons equal to dorsal tip of beak; Guatemala.....**ferrugineum** Sharp
17. (12) Elytral intervals with a single row of scales, pubescence not denser basally.... 18
 Elytra with a dense post-scutellar spot or intervals with two rows of scales; beak slender, attenuate beyond antennal insertion.....**nodicorne** group
18. Legs black; first segment of fore tarsus slightly longer than wide; male with first segment of tarsus 2 spined.....**spretissimum** group
 Legs yellow; first segment of fore tarsus two or more times as long as wide; tarsi of male simple.....**decoloratum** group (in part)
19. (10) Frons as wide or wider than dorsal tip of beak..... 24
 Frons not as wide as dorsal tip of beak..... 20

20. Pubescence arranged in a pattern on basal portion of elytra or coarser there; prothorax not conical; legs black; body at most moderately convex in side view..... **frontellum** group
 Pubescence of elytra uniform..... 21
21. Legs of male simple; legs yellow..... 22
 Male with tibiae 2 and 3 mucronate and first segment of tarsus 3 with a short blunt spine on inner surface; legs black, Arizona..... **carinirostrum** Fall
22. Derm dark reddish or red..... 23
 Derm black; legs and coxae 1 and 2 yellow; body moderately convex in side view; prothorax parallel sided in basal half; Panama..... **epicum** Sharp
23. Prothorax conical; in side view body very convex; coxae and beak dark; Guatemala..... **lentum** Sharp
 Prothorax parallel sided in basal half; in side view body moderately convex; coxae 1 and 2 and beak in part yellow; Florida and Mexico..... **lividum** Smith
24. (19) Prothorax definitely constricted at apex..... 25
 Prothorax not constricted apically; nearly glabrous, above, pubescence dense on sides of mesothorax and metepisternum; little sexual dimorphism in structure in beak; tibiae 2 and 3 of male mucronate..... **pleuriticum** group
25. Beak at most slightly expanded laterally, at tip, generally attenuating toward apex; apical region of beak more finely sculptured than basal region..... 26
 Beak more or less expanded toward apical region, rather uniformly punctured and pubescent throughout; legs vary from black to yellow; eyes generally not prominent; legs of male simple..... **attenuatum** group
26. Body moderately stout; coxae and beak of both sexes black..... 27
 Body slender; legs and coxae 1 and 2 yellow; beak of male yellow in part; male with tibiae 2 and 3 mucronate; Mexico to Panama..... **hastifer** Sharp
27. Frons with two approximate rows of coarse punctures separated by a narrow interval, generally not sulcate; legs generally pale; legs of male simple..... 28
 Frons with a rather broad median area which may be flat, convex or obviously sulcate medially; legs generally black; tibiae of male (usually 2 and 3, sometimes only 2) mucronate, in some species tarsi of male modified or spined..... **Trichapion** Wagner (in part)
28. Elytra black or very dark piceous 29
 Elytra dark red; prothorax evenly, sparsely, shallowly punctured; eyes prominent; male with a few coarse scales on side of prothorax and on anterior face of front coxae; Mexico **teapense** Sharp
29. Eyes moderately prominent; pubescence very sparse, uniform; little sexual dimorphism in structure of beak; prothorax subparallel in basal half..... **decoloratum** group (in part)
 Eyes not prominent; pubescence conspicuous, more or less condensed at base of interval 3; obvious sexual dimorphism in structure of beak; prothorax subconical..... **segnipes** group
30. (9) Prothorax conical in form, punctation of prothorax generally fine, superficial.... 31
 Prothorax parallel in basal half or subcylindrical in form, punctation of prothorax generally deep 34
31. Beak greatly expanded laterally at antennal insertion; prothorax not constricted apically **dilatatum** group (in part)
 Beak not strongly expanded laterally at antennal insertion..... 32
32. Coxae 1 and 2 yellow or reddish; legs not banded with red nor entirely black; beak of male may be yellow in part..... 33

- Coxae and beak of both sexes black; legs black or banded with red.....
**dilatatum** group (in part)
33. Elytra obviously nodose at apex; longitudinal axis of eye of male distinctly longer than vertical axis**Bothryopteron** Wagner
 Elytra not nodose at apex; eye nearly round in outline, middle tibia of male mucronate, male with first segment of tarsus 3 with a blunt spine; Mexico and Guatemala
**subauratum** Sharp
34. (30) Frons not narrower than dorsal tip of beak or beak of male in part yellow..... 40
 Frons narrower than dorsal tip of beak, beak of male black..... 35
35. Elytra distinctly less than three times as long as prothorax, at least moderately robust in outline 36
 Elytra more than three times as long as prothorax, rather slender in outline being nearly twice as long as wide; Lower California.....**filum** Fall
36. Eyes at least moderately prominent; elytra not ventricose in outline..... 37
 Eyes not at all prominent; elytra somewhat ventricose in outline; beak subcylindrical, not at all dilated at antennal insertion.....**ventricosum** group
37. Size over 2.0 mm.; beak glabrous in apical third..... 39
 Size less than 2.0 mm. 38
38. Prothorax distinctly constricted at apex, apex three-fourths as wide as base; elytral intervals about twice as wide as coarse striae; metasternum with deep punctures; Mexico to Venezuela**aduncirostre** Gerstaecker
 Prothorax not constricted at apex, apex five-sixths as wide as base; elytral intervals more than twice as wide as fine, shallow striae; metasternum virtually impunctate; Mexico and Panama**panamense** Sharp
39. Tarsal claw with a long, acute basal tooth; beak of female in dorsal view slightly attenuate to apical third, tip subparallel; antennae of female inserted at basal one-third of beak; Panama**altum** Sharp
 Tarsal claw with a short, acute basal tooth; beak of female in dorsal view slightly expanded at antennal insertion and definitely expanded at apex; antennae of female inserted at basal one-fourth of beak; Guatemala.....**fuscimanum** Sharp
40. (34) Metasternum lacking a median tubercle..... 41
 Metasternum with an acute median tubercle; legs of male simple.....**sordidum** group
41. Elytral intervals not concave 42
 Elytra aeneous, intervals in part concave, twice as wide as striae; pubescence inconspicuous; tibiae, base of femora and antennae rufous; male with three pairs of tibiae with minute to small mucrones, first sternite of male with medio-basal tubercle
**brachyspinosum** group
42. Elytra lacking a bluish luster..... 43
 Elytra with distinct blue luster; beak of male very strongly expanded laterally over antennal insertion, beak of female only slightly expanded there; legs of male simple; eyes prominent; frons wide, strigose; Alberta.....**cyanitinctum** Fall
43. Pubescence conspicuous, at least on side of mesothorax or legs reddish yellow..... 47
 Pubescence inconspicuous, uniform, legs black or piceous; eyes moderately prominent 44
44. Front femora of male with ventral median smooth polished area generally bounded

- by a distinct ridge; tips of elytra of female may be prolonged into a distinct lobe
 ----- Fall's Group¹
 Front femora of male simple; tips of elytra of female not prolonged..... 45¹
45. Legs of male not mucronate; elytral intervals about twice as wide as striae..... 46
 Tibiae 1 and 2 of male mucronate; elytral intervals narrow, hardly wider than striae
 ----- **porosicolle** group
46. Beak slender, strongly curved, distinctly attenuate toward apex; western United States
 ----- **oedorhynchum** LeConte
 Beak moderately stout, subcylindrical; western United States..... **antennatum** Smith
47. (43) Dorsal margin of antennal scrobe more or less evenly descending from anterior
 part of scrobe to beneath eye..... 48
 Dorsal margin of scrobe strongly oblique over antennal insertion, produced into a
 distinct, acute projection which is visible in side view; male with tibiae 2 and 3
 mucronate..... **metallicum** group
48. Tarsal segment 1 distinctly longer than tarsal segment 2; tibiae of male not mucronate
 ----- 50
 Tarsal segments 1, 2 and 3 subequal in length; tibiae 2 and 3 of male mucronate 49
49. Legs black; beak glabrous and strongly polished beyond antennal insertion; antennal
 club about as long as eye..... **tenuirostrum** group
 Femora and tibiae pale reddish yellow; beak of male pubescent to tip; antennal club
 distinctly longer than eye..... **Rhopalapion** Schilsky
 (**longirostre** Olivier, introduced into eastern U. S. from Europe)
50. Frons punctured; beak moderately slender, subcylindrical in side view; eyes at most
 slightly prominent..... 51
 Frons canaliculate or sulcate, may be depressed adjacent to eye; beak short, stout,
 attenuate; eyes prominent..... **cavifrons** group
51. Femora black or piceous..... 53
 Femora yellow or reddish..... 52
52. Elytral intervals at least twice as wide as striae; pubescence on dorsal surface evident,
 generally denser at base of interval 3; scales on prothorax definitely projecting
 beyond rim of punctures; beak of male in part yellow; legs of male simple
 ----- **disparatum** group
 Elytra intervals slightly wider than striae; pubescence inconspicuous, scales on pro-
 thorax barely projecting beyond rim of punctures; Panama..... **maceratum** Sharp
53. Prothorax widest in front of base, more or less constricted apically; elytral striae fine,
 shallow; beak not both deeply punctate and pubescent beyond antennal inser-
 tion..... 54
 Prothorax subcylindrical, hardly constricted apically; elytral striae deep, coarse; beak
 punctured and pubescent beyond antennal insertion; Guatemala to Colombia
 ----- **picipes** Gerstaecker
54. Moderately robust, tarsi of male not spined..... **varicorne** group
 Narrow, elongate, subcylindrical; male with first segment of tarsus 2 spined
 ----- **parallelum** group

¹Females of species of Fall's Group I lacking prolonged elytral tips will have to be placed by association with males.

**NORTH AND CENTRAL AMERICAN *APION* SPECIES NOT
AVAILABLE FOR STUDY AND NOT PLACED IN KEY**

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|-----------------------------------|------------------------------------|
| 1. <i>amoenum</i> Sharp | 14. <i>omissum</i> Wagner |
| 2. <i>auripes</i> Fall | 15. <i>pacificum</i> Sharp |
| 3. <i>auropilosum</i> Wagner | 16. <i>paradoxum</i> Gerstaecker |
| 4. <i>consanguineum</i> Wagner | 17. <i>persulcatum</i> Wagner |
| 5. <i>contusum</i> Smith | 18. <i>pilirostre</i> Wagner |
| 6. <i>costaricense</i> Wagner | 19. <i>pulchripes</i> Sharp |
| 7. <i>cuprascens</i> Mannerheim | 20. <i>quericola</i> Sharp |
| 8. <i>filipes</i> Sharp | 21. <i>sallei</i> Wagner |
| 9. <i>laterale</i> Sharp | 22. <i>scydmaenoides</i> Sharp |
| 10. <i>latipenne</i> Sharp | 23. <i>seriatum</i> Sharp |
| 11. <i>luteinasus</i> Wagner | 24. <i>subferrugineum</i> Wagner |
| 12. <i>macropus</i> Wagner | 25. <i>subglobosum</i> Gerstaecker |
| 13. <i>nodirostre</i> Gerstaecker | 26. <i>vile</i> Gerstaecker |

***ATTENUATUM* GROUP**

Members occur in North and Central America.

- | | |
|-------------------------------|--------------------------|
| 1. <i>attenuatum</i> Smith | 5. <i>hibisci</i> Fall |
| 2. <i>chiriquense</i> Sharp | 6. <i>perlentum</i> Fall |
| 3. <i>elutipes</i> Fall | 7. <i>relictum</i> Sharp |
| 4. <i>fulvotibiale</i> Wagner | 8. <i>solutum</i> Fall |

***BOTHRYOPTERON* WAGNER**

The only described species from this region is *A. grallarium* Sharp known from Vera Cruz, Mexico and Guatemala.

***BRACHYSPINOSUM* GROUP**

Two species belong here, *brachyspinosum* Wagner from Mexico and *smithi* Wagner from eastern United States.

***CAVIFRONS* GROUP**

The three species assigned to this group occur in the northern part and west coast region of North America.

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|-----------------------------|----------------------|
| 1. <i>alaskanum</i> Fall | 3. <i>huron</i> Fall |
| 2. <i>cavifrons</i> LeConte | |

***CHRYSOCOMUM* GROUP**

This group ranges from the extreme western part of the United States into northern South America. Specimens of *auctum* Sharp have been seen from the Huachuca Mountains, Arizona and constitute the first U. S. record of this species.

1. *auctum* Sharp2. *chrysocomum* Gerstaecker**COXALE GROUP**

This group occurs in eastern United States and from Arizona to Panama. See Kissinger (1957) for a key to the species of the group.

1. *colon* Sharp4. *neocoxale* Kissinger2. *coxale* Fall5. *occiduum* Kissinger3. *lassum* Sharp**DECOLORATUM GROUP**

The members of this group occur in eastern United States and Mexico and Guatemala.

1. *carinatum* Smith4. *errabundum* Sharp2. *decoloratum* Smith5. *pallitarse* Sharp3. *emaciipes* Fall6. *solitare* Sharp**DILATATUM GROUP**

This group occurs in southeastern United States and from Arizona into South America.

1. *championi* Sharp5. *inflatipenne* Sharp2. *crassum* Fall6. *juno* Sharp3. *derasum* Sharp7. *latipes* Sharp4. *dilatatum* Smith8. *samson* Sharp**DISPARATUM GROUP**

This group ranges from Texas and Arizona into Mexico and Guatemala; a single undetermined species has been seen from Venezuela. See Kissinger (1956) for a key to the species.

1. *alloeum* Kissinger5. *schwarzi* Kissinger2. *bickleyi* Kissinger6. *sectator* Kissinger3. *disparatum* Sharp7. *seminudum* Wagner4. *hirtum* Wagner8. *setifrons* Wagner**FALL'S GROUP I**

This very distinct group (see Fall, 1898) occurs mainly north of Mexico, a few members have been seen from northern Mexico.

1. *anceps* Fall7. *dilaticolle* Fall2. *atripes* Smith8. *ellipticum* Smith3. *bischoffi* Fall9. *erraticum* Smith4. *coracellum* Fall10. *finitimum* Fall5. *desolatum* Smith11. *floridanum* Smith6. *diffRACTUM* Fall12. *funerum* Fall

- | | |
|-----------------------------------|-----------------------------------|
| 13. <i>hesperum</i> Fall | 21. <i>pennsylvanicum</i> Boheman |
| 14. <i>impeditum</i> Fall | 22. <i>protensum</i> LeConte |
| 15. <i>impunctistriatum</i> Smith | 23. <i>quadricolle</i> Fall |
| 16. <i>melanarium</i> Gerstaecker | 24. <i>robustum</i> Smith |
| 17. <i>minutum</i> Smith | 25. <i>sinuirostrum</i> Fall |
| 18. <i>molestum</i> Fall | 26. <i>speculiferum</i> Fall |
| 19. <i>obsoletum</i> Smith | 27. <i>texanum</i> Smith |
| 20. <i>occidentale</i> Fall | 28. <i>virile</i> Fall |

FRONTELLUM GROUP

This group occurs in southwestern United States and Mexico.

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|-------------------------------|---------------------------|
| 1. <i>erythropterum</i> Sharp | 3. <i>subornatum</i> Fall |
| 2. <i>frontellum</i> Fall | |

HERCULANUM GROUP

The members of this group appear to be confined to northeastern United States; a single specimen has been seen from Oregon.

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|----------------------------|----------------------------|
| 1. <i>herculanum</i> Smith | 3. <i>umboniferum</i> Fall |
| 2. <i>puritanum</i> Fall | |

HETERAPION SHARP

This distinct group, proposed as a separate genus by Sharp, occurs in southeastern Mexico and Guatemala.

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|---------------------------|-------------------------|
| 1. <i>femoratum</i> Sharp | 2. <i>inermis</i> Sharp |
|---------------------------|-------------------------|

LUTEIROSTRE GROUP

This isolated group occurs in an almost unbroken line from Massachusetts along the Atlantic seaboard to Argentina, members also occur inland, especially in the tropics.

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|-----------------------------|-----------------------------------|
| 1. <i>lividum</i> Smith | 3. <i>luteirostre</i> Gerstaecker |
| 2. <i>longipenne</i> Wagner | 4. <i>perminutum</i> Smith |

METALLICUM GROUP

Two species are in this group, *metallicum* Gerstaecker in southern United States and *troglydites* Mannerheim in Oregon and California.

NODICORNE GROUP

Members of this group range from southern Virginia to Brazil. See Kissinger (1958) for a key to the following species.

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|-------------------------------|-----------------------------|
| 1. <i>buchanani</i> Kissinger | 4. <i>fumitarse</i> Fall |
| 2. <i>delta</i> Buchanan | 5. <i>nodicorne</i> Sharp |
| 3. <i>expilator</i> Kissinger | 6. <i>sagians</i> Kissinger |

PARALLELUM GROUP

Members of this group occur in eastern, midwestern and southwestern United States, Mexico and Guatemala.

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|-----------------------------|---------------------------|
| 1. <i>disparipes</i> Fall | 5. <i>pauper</i> Sharp |
| 2. <i>extensum</i> Smith | 6. <i>spinipes</i> Fall |
| 3. <i>graciliforme</i> Fall | 7. <i>tenuiforme</i> Fall |
| 4. <i>parallelum</i> Smith | |

PECULIARE GROUP

The members of this group occur from southern Texas to Brazil; *A. martinezi* Marshall occurs in Puerto Rico.

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|-------------------------------|-----------------------------|
| 1. <i>americanum</i> Wagner | 5. <i>matricum</i> Sharp |
| 2. <i>basirostre</i> Sharp | 6. <i>peculiare</i> Wagner |
| 3. <i>cretaceicolle</i> Sharp | 7. <i>xanthoxyli</i> Wagner |
| 4. <i>lebasi</i> Gyllenhal | |

PLEURITICUM GROUP

The members of this group occur in eastern United States, Baja California and from Mexico to Panama.

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|-----------------------------|-------------------------|
| 1. <i>peninsulare</i> Fall | 3. <i>reclusum</i> Fall |
| 2. <i>pleuriticum</i> Sharp | |

POROSICOLLE GROUP

This group occurs in western United States and Mexico.

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|----------------------------|---------------------------------|
| 1. <i>acrophilum</i> Fall | 3. <i>porosicolle</i> Gemminger |
| 2. <i>opacicolle</i> Smith | |

PUNCTINASUM GROUP

This group occurs in eastern United States and the northern half of the country and neighboring Canada.

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|------------------------------|-----------------------------|
| 1. <i>pulchrum</i> Blatchley | 2. <i>punctinasum</i> Smith |
|------------------------------|-----------------------------|

SEGNIPES GROUP

This group occurs in eastern United States and from Arizona to Panama.

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|-------------------------|------------------------|
| 1. <i>arizonae</i> Fall | 2. <i>segnipes</i> Say |
|-------------------------|------------------------|

SORDIDUM GROUP

The members of this group occur in southeastern and western United States and Mexico.

- | | |
|------------------------------|--------------------------|
| 1. <i>californicum</i> Smith | 3. <i>germanum</i> Sharp |
| 2. <i>curticorne</i> Fall | 4. <i>sordidum</i> Smith |

SPRETISSIMUM GROUP

The members of this group occur in southeastern and southwestern United States and from Mexico to Brazil.

- | | |
|------------------------------|------------------------------|
| 1. <i>aculeatum</i> Fall | 4. <i>persimile</i> Fall |
| 2. <i>dissimilipes</i> Sharp | 5. <i>praeditum</i> Sharp |
| 3. <i>fibulipes</i> Fall | 6. <i>spretissimum</i> Sharp |

STENAPION WAGNER

This group ranges from Mexico into Argentina. Wagner (1915) presents a revision of the group.

- | | |
|----------------------------------|---------------------------|
| 1. <i>constricticollae</i> Sharp | 3. <i>terminale</i> Sharp |
| 2. <i>macrothorax</i> Wagner | |

TENUIROSTRUM GROUP

This group occurs in midwestern United States and Mexico.

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|------------------------|------------------------------|
| 1. <i>impexum</i> Fall | 2. <i>tenuirostrum</i> Smith |
|------------------------|------------------------------|

TRICHAPION WAGNER

This group ranges from Canada to Argentina and Chile. A complete list of the species included and a key will be presented in a revision of the New World species soon to be published. Seventy species have been described from North and Central America.

VARICORNE GROUP

With the exception of the northeastern portion this group occurs throughout the United States and in Mexico and Guatemala.

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|---------------------------|--------------------------------|
| 1. <i>alternatum</i> Fall | 3. <i>tomentosum</i> Wagner |
| 2. <i>varicorne</i> Smith | 4. <i>chalceum</i> Gerstaecker |

VENTRICOSUM GROUP

This group occurs in southwestern United States and western Mexico.

- | | |
|---------------------------|-------------------------------|
| 1. <i>eriogoni</i> Fall | 3. <i>ventricosum</i> LeConte |
| 2. <i>haplopus</i> Wagner | |

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